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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,007	12/15/2000	Yoshinori Nakagawa	UNIUS-203 (10025497)	1296

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EXAMINER

SPISICH, MARK

ART UNIT PAPER NUMBER

1744

DATE MAILED: 08/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,007

Applicant(s)

NAKAGAWA ET AL.

Examiner

Mark Spisich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant, in an attempt to claim what the invention is not as opposed to what it is, has added into claims 1 and 6 a recitation which makes no sense. The battery of the present invention has to be connected to some portion of the brush, such as the handle. Perhaps applicant may wish to amend claims 1 and 6 to insert – electrically – before “connected”. Applicant should review the claims for any additional formalities.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-90824. '824 discloses an electronic toothbrush comprising a brush head portion (A), a holder portion (B), an n-type semiconductor (9) and a battery (6) electrically coupled to the n-type semiconductor. '824 happens to be in a toothbrush which, in addition to the photocatalytic effect of the n-type semiconductor, includes a motor (5) with an eccentric weight (7). The functions of the motor (to produce the vibrations) and the n-type semiconductor (to produce the photocatalytic effect) are independent of each

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other. They simply are connected to a common power source. '824 teaches that such a semiconductor may be connected to a terminal of a battery. There are also a number of examples of vibrating toothbrushes which have nothing to do with an n-type semiconductor as well as toothbrushes which utilize a photocatalytic effect and have nothing to do with a motor. '824 discloses the claimed invention except for the battery being solely connected to the n-type semiconductor. It would have been obvious to one having ordinary skill in the art to eliminate the motor, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. In re Karlson, 136 USPQ 184. '824 utilizes the same type of semiconductor recited in claim 2 and the particular DC voltage provided by the battery would be obvious to one of ordinary skill depending on the desired cleaning effect. One of ordinary skill would deem it obvious to utilize any known semiconductor which is of the type disclosed by '824 (claim 4). The use of a button-type battery (claim 5) would be obvious to one of ordinary skill depending on availability and cost, etc. '824 does disclose conductor (13) which couples the semiconductor (9) to the battery. Claims 6-10 generally parallel claims 1-5.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al (USP 4,526,570) in view of Sakuma et al (USP 4,691,718) **OR** JP 6-90824. The patent to Nakagawa discloses an electronic toothbrush comprising a brush head portion (1), a holder portion (2) and an n-type semiconductor (4) which is arranged to be exposed to natural and/or manmade light. The patent to Nakagawa further teaches that **"the semiconductors may be additionally activated by means of an**

external voltage so as to amplify the photoelectric effect, within the spirit of the invention" (column 4, lines 40-43); however, it falls short of mentioning a battery as part of the toothbrush (although such a statement would seem to suggest one). The patent to Sakuma discloses an electronic toothbrush (1) with a button-type 1.5V battery (5) (see column 3, lines 40-41) so as to apply a voltage to an exposed conductor (6). The '824 also discloses an n-type semiconductor (9) which is exposed to light and which is further connected to a terminal of a battery (6). It would have been obvious to one of ordinary skill to have provided the device of Nakagawa with a battery coupled to the n-type semiconductor to apply the external voltage clearly suggested by Nakagawa at column 4 (lines 40-43) based on the further teachings of either Sakuma et al OR '824. The patent to Nakagawa discloses the same n-type semiconductor recited in claim 2 and also states that it may be crystalline (claim 4) (see column 4, line 47). The semiconductor (4) of Nakagawa is rod-like. There would have to be a conductive line (claim 5) to connect the semiconductor to the battery (claim 5). Claims 6-10 essentially parallel claims 1-5.

Response to Arguments

5. Applicant's arguments filed 10 July 2003 have been fully considered but they are not persuasive. First, JP 6-90824 discloses an n-type semiconductor (9) which is exposed to light and which is further coupled a pole of a battery (6). '824 happens to disclose the above structure in an vibrating electric toothbrush and as such the battery (6) is further coupled to a motor (5) which drives an eccentric weight (7). The functions of the semiconductor (9) and the motor (5), although they are disclosed in the same

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combination, are independent of each other and one could be eliminated without effecting the operation of the other. If it was a mere instance of provided a prior art n-type semiconductor (such as in USP 4,526,570) to an electric toothbrush, there still would not have been a teaching of coupling the semiconductor to the battery. It has further been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184. Applicant should also note the new ground rejection (USP 4,526,570 in view of JP 6-90824) which has been added in response to the added negative limitation added to claims 1 and 6. With regard to the second rejection (USP 4,526,570 in view of USP 4,691,718) of the prior office action, the examiner has previously noted a particular passage (see column 4, lines 40-43) therein which would seem to suggest or imply the addition of a means to apply a voltage to the semiconductor (although the working examples do not have a battery). This passage is essentially the motivation for making the combination. Applicant failed to address the noted phrase of USP 4,526,57 and only discusses the two references without addressing the combination especially in view of the noted passage.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Spisich whose telephone number is (703) 308-1271. The examiner can normally be reached on M-Th (6-3:30), Alternate Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Mark Spisich
Primary Examiner
Art Unit 1744

MS
August 13, 2003